TURN AND BURN
NO-FLY ZONE

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ABSOLUTE

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TURN AND BURN
NO-FLY ZONE™

FLIGHT MANUAL

ABSOLUTE

SUPER NINTENDO ENTERTAINMENT SYSTEM

WARNING: PLEASE READ THE ENCLOSED CONSUMER INFORMATION AND PRECAUTIONS BOOKLET CAREFULLY BEFORE USING YOUR NINTENDO® HARDWARE SYSTEM OR GAME PAK.

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Nintendo

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ABSOLUTE™

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CLASSIFIED

From the Desk of the Secretary
Department of the Navy

TO: Naval Aviators in the Mediterranean Area of Operations

RE: Presidential Order #67

Recent events in your carrier group's area of operations have led to runaway political and military instability in the region. In order to stem the flow of military supplies and other stores into the area, the President has declared the air space surrounding this region closed to all military and civilian traffic. This is an attempt to ensure that the current situation does not deteriorate any further.

Naval aviators conducting operations in the so-called "No-Fly" Zone will be at a full state of combat readiness at all times. This air space is, in effect, a free-fire zone; any aircraft entering it will be assumed to have hostile intent. Naval aviators are authorized to neutralize any such threats using all of the means at their disposal.

Intelligence reports indicate that one of the nations in this region intends to test the President's resolve on this issue by conducting offensive air operations in spite of the ban on air traffic. Naval aviators are advised that the bulk of said nation's air power consists of aircraft produced in the former Soviet Union, chiefly top-of-the-line MiG-29s.

The President has expressed his confidence in the Navy's air arm to successfully maintain the peace in this volatile region. As for myself, I know that your training has prepared you for a mission such as this, and that you will execute your orders superbly.

F-14 TOMCAT SPECIFICATIONS

PERFORMANCE

Maximum Speed at Altitude: Mach 2.34

Maximum Speed at Sea Level: Mach 1.2

Power Plant: Two 20,900 lb. afterburning Pratt and Whitney TF30-414 Turbofans

Cruising Speed: 400–500 knots (741–1019 km/h)

Landing Speed: 132 knots (204 km/h)

Minimum Takeoff Distance: 1,400 ft.

Ceiling: 56,000 ft.

Fuel Load: 3,080 gallons

ARMAMENT

- M61A1 "Vulcan" 20mm cannon
- AIM-7 "Sparrow" radar-guided air-to-air missiles
- AIM-9 "Sidewinder" infrared air-to-air missiles
- AIM-54 "Phoenix" lock and shoot air-to-air missiles

ENEMY AIRCRAFT ADVISORY

In each mission, you will be pitted against aircraft produced in the former Soviet Union, primarily the MiG-29. The number of enemy aircraft you face will vary, based on the number of missions you have successfully completed.

FLIGHT PROCEDURAL OVERVIEW

Experienced F-14 pilots familiar with this theater of operations' systems and procedures may refer to the instructions below for an immediate start on Mission One. **Novice pilots are ordered to study the *Launch Procedures* and *Basic Flight Control* sections below, as well as the entire text of this flight manual. Exceptions will not be granted or tolerated.**

LAUNCH PROCEDURES

- Hold down **UP** and **BUTTON B** simultaneously. Continue until the thrust level reaches 210%.
- When you are saluted by the flight officer, the ship's catapult mechanism will be engaged, launching your F-14 from the flight deck.

BASIC FLIGHT CONTROL

To Bank Right or Left:	Press **RIGHT** or **LEFT** on the **Control Pad**.
To Climb:	Press **DOWN** on the **Control Pad**.
To Dive:	Press **UP** on the **Control Pad**.
To Select a Weapons System*:	Press **BUTTON X.**
To Fire a Selected Weapons System*:	Press **BUTTON A.**
To Increase Thrust:	Press **BUTTON B** and **UP** on the **Control Pad** simultaneously.
To Decrease Thrust:	Press **BUTTON B** and **DOWN** on the **Control Pad** simultaneously.
For a Rear Left View:	Press the **TOP LEFT BUTTON.**
For a Rear Right View:	Press the **TOP RIGHT BUTTON.**
To Pause and Unpause*:	Press **START.**

ACCESSING COMPUTER AND RADAR SYSTEMS*:

(See pages 13–15 for a complete description of onboard computer systems).

Press **SELECT** to access the AWACS Operational Radar Grid.

Press **BUTTON Y** to cycle through these computer system displays:

- Threat Systems
- Automatic Flight Control Systems
- Pulse Doppler Search Radar Mode
- Armament
- Electronic Countermeasures (ECMs)

BUTTON Y + DOWN:

- Accesses long-, medium-, and short-range AWG-9 radar modes (shows an overhead view of oncoming bogeys).
- Hold down **BUTTON Y** and continue to press **DOWN** to cycle through these modes.

BUTTON Y + UP:

- Accesses DDD Radar (shows head-on view of oncoming bogeys).

BUTTON Y + LEFT:

- Accesses STAT 1 (primary) flight information (altitude,compass heading, thrust, air speed).

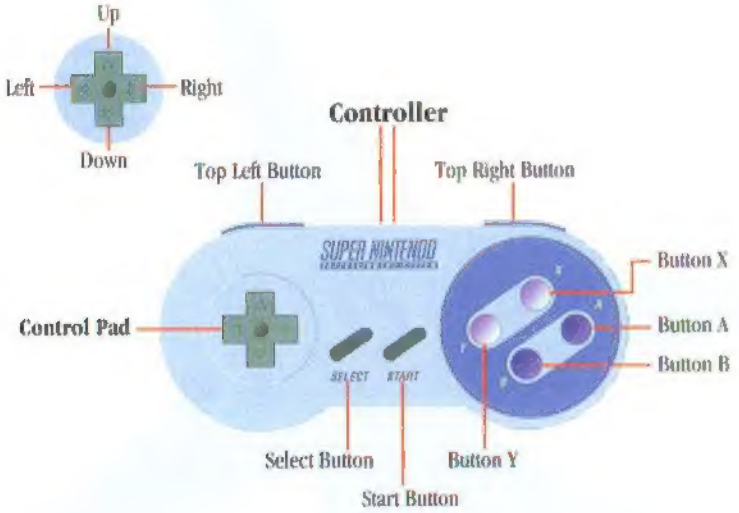
BUTTON Y + RIGHT:

- Accesses STAT 2 (secondary) flight information (fuel, wing sweep angle, angle of attack).

** Denotes systems available to second player in* Co-Pilot Mode *(see page 9).*

PREFLIGHT CHECKLIST

1. Make sure the power switch on the console of your SUPER NINTENDO ENTERTAINMENT SYSTEM® is **OFF**.
2. Insert the **TURN AND BURN: NO-FLY ZONE™** Game Pak as described in your Super NES manual.
3. Turn the power switch **ON**.



GAME OPTIONS

On the Options Screen, pilots can customize the controller configuration, select either the Novice or Ace Modes for game play, or enter a password to restore a saved game.

Customizing the Controller:
This allows you to customize the flight controls. The different configurations can be cycled through with the **Control Pad**. Press **BUTTON A** to lock in your selection.

Novice Mode:
This mode will allow rookie pilots to familiarize themselves with the basic operations of the F-14.

Ace Mode:
For pilots who prefer a heightened and more challenging simulation.

Co-Pilot Mode:
A second player can take control of the F-14's weapon and computer systems by using the *second* **Controller** of your Super Nintendo Entertainment System. This mode is immediately available when the second **Controller** is plugged in. In any mode, the first **Controller** will always operate the F-14's functions throughout the game.

PASSWORDS

At the end of each mission, you will receive a password. This password should be written down; it will allow the pilot to restart the game at any time from that point at your current rank. Without the password, you will be required to start from the beginning of the game.

To enter the password, select **CONTINUE** on the Options Screen (see page 9). The Password Entry Screen will then appear. Enter the combination of letters in your password by using the **Control Pad** to move around the grid of letters, and **BUTTON A** to lock in your selection. After entering the entire password, press **START** and you will resume the game from the point at which you were assigned the password.

THE COCKPIT CONTROL PANEL

Damage Indicators
These lights will illuminate as your F-14 sustains damage from enemy ordnance (see page 29).

Enemy Lock-On Indicators
These lights will flash, accompanied by a warning beeper, when an enemy targeting system is attempting to acquire your F-14. If these lights illuminate steadily, accompanied by a steady beep tone, the enemy radar has "locked-on" to your F-14 and has launched its missile.

F-14 Lock-On Indicator
Similar to the Enemy Lock-On Indicators, this light will flash, accompanied by a pulsing beep tone, when your targeting system is attempting to acquire an enemy. When "lock-on" has been achieved, the light will glow steadily, accompanied by a steady beep.

System Shut-Down Indicators
Used in Ace Mode only (see page 9).

M61A1 Temperature Indicator
Illuminates if the nose-mounted Vulcan machine gun overheats.

Weapons Status Display
Shows currently selected weapon system, and the number of rounds remaining.

Cockpit Computer Display
Displays all Onboard Computer Systems (see pages 13–15), TARPS video replays (see page 33).

THE COCKPIT CONTROL PANEL (CONTD.)

Engine Thrust Gauge
Displays the percentage of the engine's thrust power currently being used. For normal flight operations, this reading will range between 30% and 100%. Afterburners are engaged automatically when thrust is increased over 100%. The pilot can use afterburners for increased thrust and speed.

Fuel Gauge
Displays the F-14's current fuel supply. This reading will vary from mission to mission.

Horizontal Situation Display
Shows your F-14's position in relation to the horizon.

ONBOARD COMPUTER SYSTEMS

The F-14 Tomcat is equipped with state-of-the-art computer systems to monitor basic flight information, radar, and weapons systems.

These computer displays will appear on the green phosphorous Cockpit Computer Display (CCD) screen in the center of the Cockpit Control Panel (see page 11). The pilot should use these systems to reference various critical and non-critical flight information, as well as warning messages regarding enemy activity and flight parameters.

BASIC FLIGHT INFORMATION

The Tomcat's Automatic Flight Control System (AFCS) computer will carefully monitor and display basic flight information such as altitude, speed, amount of fuel remaining, direction, et al. This information is split up amongst two CCD screen displays—the **STAT 1 Display, STAT 2 Display**—both of which are readily available to the pilot at all times.

STAT 1 DISPLAY

Shows primary flight information.

To Access STAT 1 Information:

- Press **BUTTON Y** and **LEFT** simultaneously.

ONBOARD COMPUTER SYSTEMS (CONTD.)

Altitude (ALT)
Displays the F-14's altitude above sea level in feet. The F-14's operational ceiling is 56,000.

Compass Heading (C-HDG)
Displays the aircraft's direction as a compass reading. The pilot can use the Central Air Data Converter (see page 33) to customize this reading to be displayed as a compass direction **(NORTH, NE, EAST, SE, SOUTH, SW, WEST, NW)** or a three-digit numerical heading **(000°= North, 180°= South, 090°= East, 270°= West)**.

Thrust (ENG%)
Displays the percentage of the engine's thrust power currently being used.

Airspeed (SPEED)
A three-digit reading displaying the F-14's airspeed, measured in Machs. A Mach is equal to the ratio of an object's speed to the speed of sound in the surrounding medium. In this case, if your F-14 is traveling at Mach 2, it is moving at twice the speed of sound.

Pilot's Advisory:

While speed will significantly increase when afterburners are engaged, it is important to remember that the F-14's rate of fuel consumption will also significantly increase.

STAT 2 DISPLAY

Shows secondary flight information.

To access STAT 2 information:

- Press **BUTTON Y** and **RIGHT** simultaneously.

Fuel (FUEL)
Displays the F-14's current fuel supply measured in gallons.

Pilot's Advisory:

An aircraft's engine thrust percentage directly affects an aircraft's rate of fuel consumption, particularly when afterburners are engaged. Remember to continually monitor fuel consumption during the course of a mission and be prepared to rendezvous with your carrier or an A6 when fuel needs to be replenished (see page 31).

Wing (WING)
Displays the degree of the F-14's wing sweep angle. The angle of the wing is variable and will sweep automatically based on increases or decreases in engine thrust. The wing sweep will range between 20° and 68° depending on the flight mode.

Low wing sweep angle will reduce the aircraft's top speed by increasing the wind drag and resistance over the surface of the plane, increasing maneuvering stability. Your computer system automatically adjusts for a higher degree of wing sweep at increased speeds.

Angle of Attack (AOA)
Reads the angle of the aircraft's pitch, from 0° to 15°. This display is useful for maneuvering your aircraft into the landing groove for final approach to your carrier.

THE NAVIGATIONAL COMPUTER

The F-14 is equipped with a navigational computer that allows the pilot to "fly on a beam" by homing in on radio beacons and radar signatures. This equipment will help guide the pilot to the carrier, enemy MiGs, A-6 refueling aircraft, and enemy objectives.

- Represented on the HUD by a diamond-shaped sight with a dot in the center.

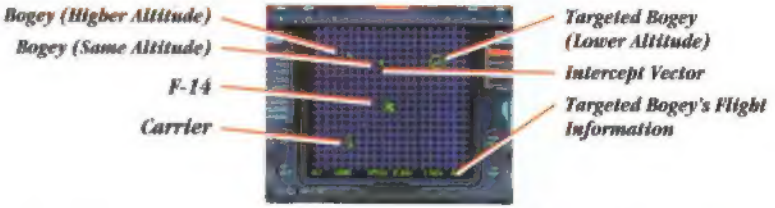
To turn on the Navigational Computer:

- Press **SELECT** to call up the AWACS Operational Radar Grid (see page 17).
- Select the target that you wish to fly towards by highlighting it on the AWACS Grid (see page 17).
- A diamond-shaped sight will appear on the HUD. Maneuver the F-14's flight path so that the diamond is ALWAYS in the center of the cockpit window. As long as the diamond is centered, the F-14 will fly toward the selected target.
- To disengage the Navigational Computer, press **BUTTON X**.

RADAR SYSTEMS

The Tomcat's radar detection system is fully integrated into its weapon and threat evaluation systems. This allows the pilot virtually instant access to a vast array of information on any bogey entering the F-14's quadrant. These systems are also connected via two-way data link to the ever-present AWACS (Airborne Warning And Control System) aircraft that monitor all air traffic in the area of operations.

THE AWACS OPERATIONAL RADAR GRID



The advantage of the AWACS Operational Radar Grid is the long- and short-range satellite (bird's-eye) views it provides, enabling the pilot to maneuver toward bogeys. Icons for bogeys flying above your current altitude appear light blue; those within 1,000 feet appear green; those at lower altitudes appear dark blue. The carrier icon will always appear blue.

Remember: Additional icons representing enemy submarines and A6 refueling aircraft may appear on the AWACS Grid as missions increase in difficulty.

Pilot's Advisory:

*Viewing the AWACS Operational Radar Grid **does not pause the mission;** the F-14 will still be subject to enemy fire and all other flight conditions.*

To "target" an aircraft on the AWACS Operational Radar Grid:

- Press **SELECT** to call up the AWACS Grid.
- Press **BUTTON Y** to cycle between the long- and short-range AWACS Operational Radar Grid Modes.
- Press **BUTTON X** to cycle through all the "blips" appearing on the Grid.
- Threat Systems Display information (see page 26) on targeted aircraft will appear at the bottom of the Grid.

To engage an aircraft on the AWACS Operational Control Grid:

- Use the **Control Pad** to steer the F-14 on the Grid.
- Use **BUTTON B** and the **Control Pad** to increase or decrease the F-14's speed (see page 6).

To return to the Cockpit Screen:

- Press **SELECT.**

AIRBORNE WEAPONS GROUP NINE (AWG-9) RADAR SYSTEM

A highly advanced detection system, the Airborne Weapons Group Nine (AWG-9) Radar System provides effective scanning for patrols, as well as a close-range and positional analysis of any airborne threat. The AWG-9 is composed of four radar modes of varying range abilities and views: **Detail Data Display Mode**, **Pulse Doppler Search Mode**, **Range While Search Mode**, and **Track While Search Mode**.

Detail Data Display (DDD) Mode

The Detail Data Display (DDD) Mode will show the altitude, and horizontal positioning of any enemy in front of the F-14. When a bogey appears on the DDD, it is shown in relation to the pilot's frontal cockpit view. Therefore, if a bogey is coming at the Tomcat head-on, and then passes over, under, or to the side of it (i.e., can no longer be viewed from the front), the DDD will be automatically replaced with one of the top-view radar screens.

To Access the DDD:

- Press **BUTTON Y** and **UP** simultaneously.

Pulse Doppler Search (PDS) Mode

The Pulse Doppler Search (PDS) Mode displays a wide, long-range overhead view of the area in front of the F-14. This is the longest-range tactical radar available.

To access the PDS Mode:

- Press **BUTTON Y** and **DOWN** simultaneously.

OR

- Continue to press **BUTTON Y** repeatedly to cycle through the computer displays.

Range While Search (RWS) Mode

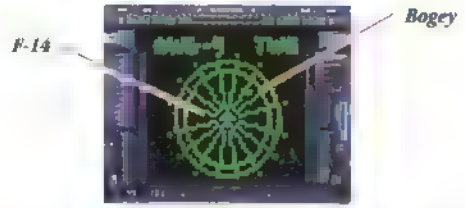
The Range While Search (RWS) Mode operates in the same manner as the PDS Mode. The magnification of the RWS, however, is a closer top view, giving the pilot a mid-range scan of the area directly in front of the F-14.

To access the RWS Mode:

- Press **BUTTON Y** and **DOWN** simultaneously.
- Continue to press **BUTTON Y**, and press **DOWN** repeatedly to cycle through these three computer displays.

RADAR SYSTEMS (CONTD.)

Track While Search (TWS) Mode



The Track While Search (TWS) Mode scans in the same manner as the PDS and RWS, but gives the pilot a close up view of the immediate vicinity around the aircraft. This radar mode has the shortest range of any available to the F-14 pilot.

This mode also allows the pilot to track an individual bogey's every move, making it particularly useful in dogfights.

To access the TWS Mode:

- Press **BUTTON Y** and **DOWN** simultaneously.
- Continue to press **BUTTON Y**, and press **DOWN** repeatedly to cycle through these three computer displays.

WEAPONS SYSTEMS

The F-14 Tomcat is armed with four of the most lethal and sophisticated weapons systems in the world. These are the Tomcat's claws, and an experienced pilot can use them to cut a fiery swath through any enemy's air defense:

- M61A1 "Vulcan" 20mm Cannon (close range only)
- AIM-9 "Sidewinder" infrared missiles (close range only)
- AIM-7 "Sparrow" radar guided missiles (close to medium range)
- AIM-54 "Phoenix" "fire and forget" missiles (close to extreme range)

To select a Weapons System:

- Press **BUTTON X** to cycle through weapons systems.
- The weapons system you have selected will appear in the Weapons Status Display on the right-hand side of the cockpit (see page 11).

To fire a selected Weapons System:

- Press **BUTTON A**.

AWG-15 LOAD DISPLAY

This lists the possible weapons systems from which the pilot may choose, and displays the number of missiles or rounds remaining.

To access the AWG-15 Load Display:

- Press **BUTTON Y** to cycle through the CCD displays until the AWG-15 Load display appears.

M61A1 "VULCAN" 20MM CANNON

Mounted on the left side of the Tomcat's nose, the M61A1 Vulcan 20mm Cannon can be utilized by a good pilot with lethal results. While it can only be used effectively at close range, the Vulcan's 6,000 rounds per minute rate of fire can bring a tremendous amount of ordnance to bear on a target very quickly. The ammunition load for this gun is M50 series 20mm shells.

The M61A1 "Vulcan" is effective only at close range.

- Represented on the HUD by a cross-hair sight.

To aim:

- Maneuver the target aircraft into the center of the cross-hair by banking to port and starboard and raising and lowering the F-14's nose angle
- Press **BUTTON A** to fire the cannon, the cannon will continue firing as long as **BUTTON A** remains pressed.
- Sustained hits are required to destroy enemy aircraft with the Vulcan cannon

Pilot's Advisory:

The M61A1 Vulcan cannon is best fired in short, concentrated bursts. The cannon expends ammunition very quickly, and is prone to overheating if fired for long intervals. At extreme barrel temperatures, it will automatically shut down. In the event that your cannon overheats, the M61 reading on the Weapons Status Monitor will flash. When the cannon has cooled, the M61 reading will stop flashing, and you can resume firing.

AIM-9 "SIDEWINDER" MISSILES

Fired alternately from the port and starboard wing mounts, these short-range, infrared (heat-seeking) missiles home in on both a target's hot jet exhaust, and on the fuselage heat caused by air friction. Against the backdrop of the cold sky, these two signatures are easily tracked by the Sidewinder's guidance system, making this a most accurate and effective launch-and-leave weapons system.

The AIM-9 "Sidewinder" is effective only at close range.

- Represented on the HUD by a circle with a dot in the center.

To aim:

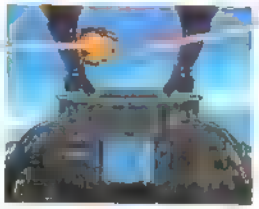
- Maneuver the dot in the center of the sight onto the target by banking to port and starboard and raising and lowering the F-14's nose angle. Wait for a "lock on" tone before launching.

To launch:

- Press **BUTTON A**
- Sidewinders are self guided after launch.

WEAPONS SYSTEMS (CONTD.)

AIM-7 "SPARROW" MISSILES



Compact and lethal, these mid-range, radar-guided missiles fit easily into the Tomcat's sleek aerodynamic design. Unlike its bulky and more sophisticated big brother, the AIM-54 "Phoenix," the Sparrow packs a punch without increasing drag and compromising the F-14's performance.

- Represented on the HUD by a square with a dot in the center.

To aim:

- Maneuver the dot in the center of the sight onto the target aircraft by banking to port and starboard and raising and lowering the F-14's nose angle. Wait for a "lock on" tone, and then maintain that tone before launching.

To launch:

- Press **BUTTON A.**
- Guide the Sparrow to its mark by keeping the targeted aircraft close to the center of the HUD sighting circle until the missile detonates.

AIM-54 "PHOENIX" MISSILES

These long-range, radar guided, launch-and-leave missiles are deployed exclusively on F-14s. As big and heavy as they are sophisticated, they can lock on to a distant radar signature and practically guarantee destruction of an enemy aircraft, eliminating the necessity of establishing visual contact with the target. Cumbersome mounting pallets must be affixed to the Tomcat in order to mount these lethal hunter-killers and their monstrous 132 lb. warheads.

The AIM-54 "Phoenix" is effective from close to extreme ranges.

- Represented on the HUD by a triangle with a dot in the center.

To aim:

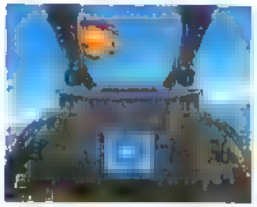
- Target a bogey on the AWACS Grid (see page 17).

To launch:

- Press **BUTTON A.**
- Phoenix missiles are self-guided after launch.

Pilot's Advisory:

Do not waste AIM-54s by launching them prior to locking them onto a target. Also note that while the Phoenix has a high success rate after target lock-on, incidents of misses resulting from enemy countermeasure interference and/or expertly executed flight techniques have been documented.



Potential enemies can be targeted on the AWACS Operational Radar Grid (see page 17 for details), which gives information on their location, altitude, heading, etc. Use the AWACS Grid to guide the F-14 close enough to an enemy to begin tactical operations on the Cockpit Control Screen.

For rapid ascent to the bogey's altitude, press **DOWN** to begin a steep climb. Then increase your speed by pressing **BUTTON B** and **UP**.

THREAT SYSTEMS DISPLAY

The Threat System gives vital flight information on any targeted bogey. In addition to the self-explanatory statistics of altitude, compass heading, and range (in nautical miles) from the F-14, it has the added ability to ID the bogey's radar signature with the Interferometer as described below.

Interferometer Friend/Foe Reading (IFF)

The IFF will classify any radar signature it receives. When a blip is targeted on the AWACS Operational Radar Grid, the pilot may access its vital information by referring to the Threat Systems Display on the CCD.

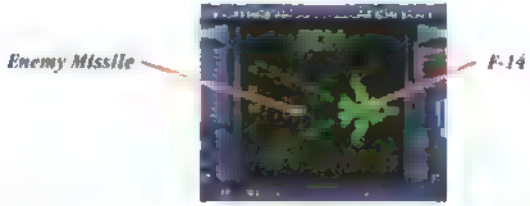
To access the Threat Systems Display:

- Press **BUTTON Y** to cycle through the CCD displays until the **THREAT SYS** display appears

When visual contact has been made with the enemy aircraft, begin engagement procedures by selecting a weapons system. Then maneuver the F-14 until the HUD of the chosen weapons system locks onto the enemy. A series of short beeps will indicate that the computer is tracking the enemy. A steady beep tone signifies that the computer has locked onto the target and the weapon of choice is ready to be launched.

ELECTRONIC COUNTERMEASURES (ECMs) DISPLAY

An enemy may at any time fire his own air-to-air ordnance at your F-14. Immediately after this occurs, the CCD will display the ECM computer screen, and a warning buzzer will sound, indicating that an enemy missile has "locked on" to your F-14.



The blip on the ECM display represents the oncoming missile and its distance in relation to your aircraft. The radar blip gets closer to the plane icon as the missile gains on you; when the blip is on top of the plane icon, it has impacted with your F-14 and you may expect to sustain damage.

Pilot's Advisory:

*In the Ace Mode, the Airborne Missile Control System (AMCS) **must** be switched to the **ON** mode prior to engaging enemy aircraft in combat. It is this function that arms all of the air-to-air missiles carried by the F-14, and you will be unable to fire weapons without activating it.*
See page 32 for information on how to access the AMCS.

DISCHARGING ECMs

The Tomcat is equipped with a supply of electronic countermeasures (ECMs) that can be used to confuse the tracking and guidance systems of enemy missiles. In the event that an enemy missile acquires your F-14, these devices can be used to augment your evasive flight maneuvers.

There are two basic types of ECMs: **chaffs** (electronic jamming devices), used to counter radar-guided missiles; and **flares** for use against heat seekers.

To discharge an ECM Device:

- Press and hold either the **TOP RIGHT** or **TOP LEFT BUTTON** to bring up the Rear Right or Rear Left view.
- Press **BUTTON A** to discharge an ECM (the AWG-9 System will classify the type of missile threatening your Tomcat, and will select the appropriate ECM for use in that situation).

Pilot's Advisory:

*While ECMs are often helpful for avoiding enemy missiles, discharging an ECM device **does not guarantee** that the homing missile will be evaded. It is recommended that pilots continue evasive maneuvers after an ECM has been discharged.*

AVOIDING ENEMY ORDNANCE

To avoid an enemy missile, you must fly a series of evasive flight maneuvers. Extreme banking and altitude changes will help to lose a missile tracking you from close behind. When your F-14 is out of danger, the warning buzzer will cease, and the ECM display will disappear from the CCD.

During avoidance maneuvers, you may still perform offensive measures to destroy enemy aircraft.

Pilot's Advisory:

The more extreme the F-14's defensive maneuvers, the more likely it is you will successfully evade an oncoming missile.

The missile will explode if it gets too close to the F-14, and you will sustain damage. If it explodes on-screen, your F-14 will sustain damage.

Remember: Missiles fired at you from the front view close in on your aircraft very quickly, so you must act fast to outmaneuver them.

SURFACE TO AIR MISSILES (SAMs)

Even when there is no apparent threat from enemy aircraft, stay alert for SAMs fired from enemy submarines that may be tracking your aircraft (use the AWACS Grid to check for the presence of submarines in your area of operations). If this occurs, the Enemy Lock On Indicators (see page 11) will flash and your computer's ECM screen will appear. Use the same evasion techniques described for air-deployed enemy missiles.

DAMAGE

If your ECMs and evasive maneuvers fail, an enemy missile will impact and damage the F-14. In the Novice Mode, a fifth hit by enemy ordnance will destroy your aircraft; in the Ace Mode, a fourth hit will destroy the F-14.

Systems Shut-Down

In the Ace Mode, when the F-14 is struck by enemy ordnance, some of the onboard computer system functions may be shut off. It is up to you to check which systems have been made non-operational, and to turn them back on. See *Adjusting Computer Systems* on pages 32–34 for details on switching computer functions on and off.

Pilot's Advisory:

Naval aviators are advised that some missions may require them to seek out and destroy an enemy objective. All intelligence regarding these targets and their defense systems is classified. Pilots are advised to approach these objectives in the same manner they would approach their carrier, and then to use any weaponry at their disposal to neutralize the objective's offensive weapons by aiming ordnance at the target's gun bursts.

Remember: You are allotted **three** F-14s per game. If all three are destroyed, the game is over.

LANDING PROCEDURES

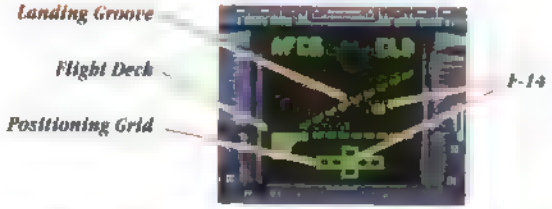
You must land your F-14 on the flight deck of the carrier in order to successfully complete a mission. You may also land during the course of a mission in order to replenish your fuel and weapons stocks (see page 31 for *in flight refueling* procedures). Adhere carefully to the following landing procedures:

To position the F-14 for final approach:

- Locate your carrier's position on the AWACS Operational Radar Grid, and direct your F-14 into its vicinity.
- Descend to an altitude of 5,000 feet or less.

When your F-14 is in the correct position for final approach, the Computer Landing Display (CLD) will appear on the CCD.

COMPUTER LANDING DISPLAY (CLD)



This display will automatically appear on the CCD after you have successfully positioned your aircraft for final approach. The CLD shows your altitude and horizontal position in relation to the carrier.

The Landing Groove Display

The F-14 will be represented by the blip in the V-shaped wedge -or "landing groove" extending from the carrier deck on the CLD. You must maneuver the F-14 in order to keep this blip inside this wedge and successfully bring the F-14 in for a landing.

The Positioning Grid

Throughout the landing procedure, your F-14 will be subject to prevailing wind conditions, and may drift slightly. On final approach, your aircraft may be tossed about by crosswinds that will move it away from the center of the carrier, or too high or low in relation to the flight deck. This drift is reflected on the Positioning Grid.

Like the Landing Groove Display, the blip on the Positioning Grid represents the F-14. The F-14 must be maneuvered so that the blip is kept in the center box of this grid at all times.

Remember: Throughout the landing procedure, the F-14 will continuously burn fuel. As a result, the number of passes you can attempt over the carrier is limited, and dependent upon the amount of fuel you are carrying.

Pilot's Advisory:

On either the Landing Groove or Positioning Grid displays, if the F-14 blip slips above the required parameters too close to the deck, you will overshoot the carrier and must reposition the F-14 for another landing attempt. If it dips below these parameters, forced impact into the flight deck will result.

To abort a landing attempt at any time:

- Increase engine thrust percentage
- Increase altitude
- Bank away from the carrier to the left or right

In-flight Refueling

Pilots can either return to the carrier to refuel or find an A6 refueling aircraft in their area of operations. The A6 will be able to replenish all of the F-14's fuel, but **will not be able to rearm spent weaponry**.

To rendezvous with an A6 for refueling:

- Locate an A6 on the AWACS Grid and fly into its vicinity.
- When you are near the A6, the CCD will display the parameters that your F-14 must match in order to begin the refueling process. Parameter requirements that have been met will not blink; unmet parameters will blink until the F-14's flight path has been adjusted to match them.
- When all the parameters have been met, refueling will begin.

ADJUSTING COMPUTER SYSTEMS

Advanced pilots may want to take more manual control of F-14 operations and access systems and information on their own. In order to do this, they need only access the appropriate system screen and change its mode. Regardless of whether the pilot is advanced or a novice, these systems do not require adjustment for regular operations.

To change an onboard computer's mode setting (ON/OFF):

- Press and hold **BUTTON B** to enter the selection mode (the line will highlight).
- Continue pressing **BUTTON B** and press **UP** or **DOWN** to cycle through the available system selections.
- Continue pressing **BUTTON B** and press **LEFT** or **RIGHT** to toggle the highlighted system's status to the **ON** or **OFF** mode.

Remember: When adjusting computer systems, you will NOT be able to adjust your engine thrust.

AUTOMATIC FLIGHT CONTROL SYSTEMS (AFCS) SYSTEM DISPLAY

The AFCS is composed of systems that monitor the radar displays, the compass reading, and the nose-mounted KS-87B frame camera. To adjust these systems, access the **AFCS SYS** display on the CCD.

COMPUTER SIGNAL DATA CONVERTER (CSDC)

Controls the display of AWG-9 radar modes (see pages 17–20 for more details). While in the ON mode, the most appropriate radar mode for your tactical situation will automatically be chosen and displayed by the computer. If the CSDC is in the OFF mode, however, it will be up to the pilot to control what radar mode is seen.

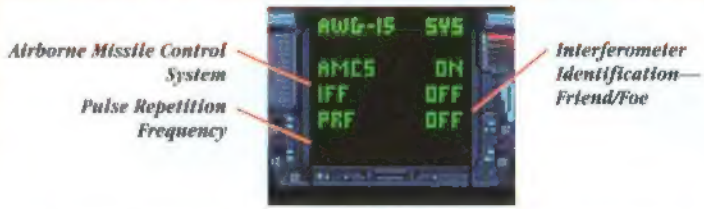
CENTRAL AIR DATA CONVERTER (CADC)

This function alters the compass heading (C-HDG) directional reading displayed in STAT 1 (see *Compass Heading* on page 14). At the beginning of a mission, the CADC is automatically set in the ON mode, displaying the F-14's heading as a compass direction **(NORTH, NE, EAST, SE, SOUTH, SW, WEST, NW)**. When the CADC is switched to the OFF mode, this reading will be displayed as a three-digit numerical heading **(000°= North; 180°= South; 090°= East; 270°= West).**

TACTICAL AIRBORNE RECONNAISSANCE POD SYSTEM (TARPS)

This function controls the nose-mounted KS-87B frame camera. Always set in the OFF mode, a pilot may toggle this function to ON after downing at least one enemy fighter. The TARPS will then replay a full-motion video of the last victory on the CCD.

AIRBORNE WEAPONS GROUP (AWG) 15 SYSTEM DISPLAY



Integrating weapons and radar systems, the AWG-15 System Display controls the F-14's missile-arming mechanisms and its radar signature analysis computer. It is displayed on the CCD as **AWG-15 SYS**.

Airborne Missile Control System (AMCS)
This function arms all of the air-to-air missiles carried by the F-14, and must be switched to the ON mode prior to engaging enemy aircraft in combat (see *Combat* on pages 26–29).

ADJUSTING COMPUTER SYSTEMS (CONTD.)

Interferometer Identification—Friend/Foe (IFF)
Controls the radar signature interpretation system, which appears as "hostile" or "carrier."

ELECTRONIC COUNTERMEASURES (ECM) SYSTEM DISPLAY

If this is switched to the OFF Mode, the ECM Display (see page 27) will not automatically come up in the event that an enemy missile has "locked on" to your F-14, and you will not be able to discharge ECMs. This screen also displays the current number of ECM devices that remain available to you.

TACTICAL RECOMMENDATIONS FOR OPERATIONS IN THE "NO-FLY" ZONE

- To avoid enemy missiles, adopt an eccentric flight pattern. Dive, bank, and climb as quickly and erratically as possible.
- To reduce the amount of fuel used during flight, use afterburners only in an emergency, and keep engine thrust below 99% (near 40% during dogfights).
- In combat situations, reduce engine thrust to 50% to increase the F-14's maneuverability.
- Fire the nose-mounted M61A1 Vulcan 20mm machine guns in short, concentrated bursts to avoid overheating.
- When landing, move the **Control Pad** slightly to avoid overshooting the carrier's parameters. Avoid rapid altitude fluctuations. Aim toward the front of the carrier runway with your HUD sight.

GLOSSARY

AFCS: Automatic Flight Control System. Monitors all flight systems (see page 32).

AIM: Air Interception Missile.

AMCS: Airborne Missile Control System. Arms all weapons (see page 33).

AWACS: Airborne Warning And Control System (see page 17).

Bank: Lateral incline of an aircraft.

CADC: Central Air Data Converter. Controls radar mode displays (see page 33).

CCD: Cockpit Computer Display. Displays computer system readouts and TARPS replays of your victories (see page 11).

CSDC: Computer Signal Data Converter. Controls compass heading display (see page 14).

ECM: Electronic Countermeasures. Aids in avoidance of enemy ordnance (see page 27).

HUD: Heads Up Display. A computer-projected image superimposed onto the cockpit window that displays the sighting tools for an F-14's weapons system.

IFF: Interferometer Identification—Friend/Foe. Identifies and interprets radar signatures (see page 26).

Landing Groove: The optimum approach pattern for a landing aircraft.

MiGs: Jet fighters produced in the former Soviet Union by the design bureau of Artem Mikoyan and Mikhail Guryevich.

Port: The left-hand side of the aircraft.

Starboard: The right-hand side of the aircraft.

TARPS: Tactical Airborne Reconnaissance Pod. Controls the nose-mounted KS-87B frame camera (see page 33).

Vector: The heading you must fly in order to intercept an aircraft.

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Warranty Officer
Absolute Entertainment, Inc.
Suite 300 South
10 Mountainview Road
Upper Saddle River, New Jersey 07458
Tel: (201) 818-1141 DISC

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